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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,287	07/29/2003	Charles David Young	02CR145/KE	5713
7590 Rockwell Collins, Inc. Attention: Kyle Eppele M/S 124-323 400 Collins Rd. NE Cedar Rapids, IA 52498	03/04/2008		EXAMINER CHAN, SAI MING	
			ART UNIT 2616	PAPER NUMBER
			MAIL DATE 03/04/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/629,287	YOUNG ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Sai-Ming Chan	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 2/14/2008.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-20 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawabata et al. (U.S. Patent Publication 20020114292).**

Consider **claim 15**, Kawabata et al. clearly disclose and show a communications system comprising:

a plurality of transceiver nodes configured to utilize a time division multiple access (fig. 1(a-d) terminal and (14 & 15) controllers), paragraph 72 (14 & 15(TDMA controllers) – TDMA network with polarity of terminals)) structure to communicate between the transceiver nodes; and

the time division multiple access structure including a plurality of time slots (paragraph 77, lines 1-12) during which the transceiver nodes are configured to communicate data cells.

wherein cells transmitted from the transmission queue are selectively placed sequentially (paragraph 0032 (QOS)) into the retransmission queue (fig. 22 (S13 and S14), paragraph 0114) for later retransmission in response to the need for a retransmission (fig. 22 (S14), paragraph 0114), wherein the retransmission queue includes a head and a tail (paragraph 0023 (first-come, first-served)), wherein a first data cell is removed from the head of the transmission queue (paragraph 0028, lines 13-17 (accumulates until acknowledgment or timeout)) if receipt is acknowledged (paragraph 0028, lines 13-17 (receive reception acknowledgment)) and the first data cell is retransmitted if a time to return elapses (paragraph 0028, lines 13-17(timeout)), wherein the first data cell is provided to the tail of the retransmit queue if retransmitted (fig. 22 (S13 and S14), paragraph 0114).

Consider **claim16**, and as applied to **claim 15 above**, Kawabata et al. clearly disclose and show a communications system, wherein the first data cell is copied before being transmitted from the transmission queue and is placed in the tail of the retransmission queue (fig. 22 (S13 and S14), paragraph 0114) if the first data cell has been marked for receive acknowledgement (paragraph 0028 (receives reception acknowledgment)).

Consider **claim17**, and as applied to **claim 15 above**, Kawabata et al. clearly disclose and show a communications system, wherein the first data cell at the head of

the retransmission queue is discarded (fig.22 (S16 and S17), paragraph 0028 (remains to be accumulated until timeout)) if timed out (paragraph 0028, lines 13-17(timeout)).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating

obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claims 1-7, 8-14 and 18-19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabata et al. (U.S. Patent Publication 20020114292), in view of Chou et al. (U.S. Patent #7016304).

Consider claims 1 and 8, Kawabata et al. clearly disclose and show a method communicating a data packet comprised of a plurality of data cells (abstract (data)), the method using a transmit queue (fig. 13 (2), paragraph 0027 (transmission queue)) and a retransmit queue (fig. 13 (7), paragraph 0027 (retransmission queue)), each of the transmit queue and retransmit queue having a head and a tail (paragraph 0027 (first-come, first-served)), the method comprising:

transmitting a first data cell from the head of the transmit queue (fig. 22 (S13 and S14), paragraph 0114);

inserting the first data cell at the tail of the retransmit queue (paragraph 0023 (first-come, first-served)) if the first data cell is for transmission (fig. 22 (S13 and S14), paragraph 0114, lines 7-11);

removing a second data cell at the head of the retransmit queue if receipt has been acknowledged for the second data cell (fig. 22 (S15, S17), paragraph 0028, lines 13-17(remains to be accumulated until acknowledgment));

retransmitting the second data cell at the head of the retransmit queue (paragraph 0027 (first-come, first-served)) if a time to retransmit elapses (paragraph 0028, lines 13-17(timeout)), wherein the second data cell is provided to the tail of the retransmit queue if retransmitted (fig. 22 (S13 and S14), paragraph 0114).

However, Kawabata et al., do not specifically disclose retransmitting if a time to retransmit elapses. Furthermore, Chou et al. clearly disclose retransmitting the second data cell at the head of the retransmit queue (column 3, lines 64-66(FIFO)) if a time to retransmit elapses (column 4, lines 41-46 (retry after timeout)), wherein the second data cell is provided to the tail of the retransmit queue if retransmitted (column 5, lines 24-26 (store at the tail of queue after transmission)).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a retransmission method, as taught by Kawabata and demonstrate retransmitting after time to retransmit elapses, as taught by Chou et al., so that the control of communication can be improved.

Consider claims 2 and 9, and as applied to claims 1 and 8 above, respectively, Kawabata et al., as modified by Chou et al., clearly disclose and show a method, further

comprising:

marking the first data cell as requiring a hop-by-hop receive acknowledgement (paragraph 0028 (receives reception acknowledgment))).

**Consider claims 3 and 10, and as applied to claims 1 and 8 above,**  
respectively, Kawabata et al., as modified by Chou et al., clearly disclose and show the method, further comprising: determining if the second data cell has timed out (paragraph 0028, lines 13-17(timeout)).

**Consider claims 4, 11 and 18, and as applied to claims 1, 8 and 15 above,**  
respectively, Kawabata et al. clearly disclose and show the method as described.

However, Kawabata et al. do not disclose exceeding its predetermined number of retransmissions. In the same field of endeavor, Chou et al. clearly shows the method, further comprising:

determining if the second data cell has exceeded its predetermined number of retransmissions (column 4, lines 46-53 (retrytimer threshold)).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a retransmission method, as taught by Kawabata and show exceeding its predetermined number of retransmissions, as taught by Chou et al., so that the control of communication can be improved.

**Consider claims 5, 12 and 19, and as applied to claims 1, 8 and 14 above,**  
respectively, Kawabata et al. clearly disclose and show a method as described.

However Kawabata et al. do not show No-Ack-Info. Furthermore, Cho et al. clearly show removing the second data cell at the head of the retransmit queue in response to a No-Ack-Info for the second data cell (column 1 , lines 54-58 (does not receive an ack)).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a retransmission method, as taught by Kawabata, and show No-Ack\_Info, as taught by Chou et al., so that the control of communication can be improved.

**Consider claims 6 and 13, and as applied to claims 1 and 8 above,**  
respectively, Kawabata et al. clearly disclose and show the method as described.

However, Kawabata et al. do not disclose removing the second data cell at the head of the retransmit queue if it has exceeded its predetermined number of retransmissions or it has timed out. In the same field of endeavor, Chou et al. clearly shows the method, further comprising:

removing the second data cell at the head of the retransmit queue if it has exceeded its predetermined number of retransmissions or it has timed out (column 4, lines 46-53 (retrytimer threshold and timeout threshold)).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a retransmission method, as taught by

Kawabata et al. and removing the cell due to timeout or exceeding the number of retransmission, as taught by Chou et al., so that the control of communication can be improved.

Consider **claim 7**, and as applied to claim 1 above, Kawabata et al., as modified by Chou et al., clearly disclose and show the method, wherein the method is performed in an ad-hoc military radio network (paragraph 0121 (variation of the invention within the scope of the invention)).

Consider **claims 14**, and as applied to claim 8 above, Kawabata et al., as modified by Chou et al., clearly disclose and show the communications system, further comprising:

a means for reinserting the first data cell at the tail of the retransmit queue after the first data cell has been transmitted from the head of the retransmit queue (paragraph 0023 (first-come, first-served); fig. 22 (S13 and S14), paragraph 0114).

**Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over**

**Kawabata et al. (U.S. Patent Publication 20020114292), in view of Kadambi et al. (U.S. Patent 7145869).**

Consider claim 20, and as applied to claim 15 above, Kawabata et al., clearly disclose and show the system as described. However, Kawabata et al., do not specifically disclose a plurality of cells. In addition, Kadambi et al. clearly disclose each the plurality of cells form a packet (column 7, lines 23-32 (series of cells)).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a retransmission method, as taught by Kawabata and demonstrate series of cells in a packet, as taught by Kadambi et al., so that the control of communication can be improved.

*Response to Amendment*

Applicant's arguments, with regard to claim 1 and 8 under 35 U.S.C. 102(e) filed 9/13/2007 have been fully considered but they are not persuasive. In the present application, Applicants basically argue, on pages 6-9 of the remarks, that Leach, does not teach or suggest retransmission queue and an algorithm based upon a data cell at the head of the retransmission queue. The Examiner respectfully disagrees with the Applicant's arguments, because in Kawabata's reference does cover retransmission

queue and an algorithm. As a result, Kawabata does teach the retransmission queue and an algorithm based upon a data cell at the head of the retransmission queue.

Therefore, in view of the above reasons, Examiner maintains rejections.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Leach: U.S. Patent publication 20020089994, Issued: July 11, 2002

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

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**Hand-delivered responses** should be brought to

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Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the

Examiner should be directed to Sai-Ming Chan whose telephone number is (571) 270-1769. The Examiner can normally be reached on Monday-Thursday from 6:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 571-272-4100.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Sai-Ming Chan  
S.C./ sc

February 19, 2008

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TECHNOLOGY CENTER 2000